This paper is in response to the office action mailed December 16, 2004. Claims 1-24 remain under consideration in the application. Claims 1, 5, 6, and 8 have been currently amended. Claims 15-24 have been newly added. No new matter has been added. Reconsideration and further examination of the application is respectfully requested.

The invention relates to a method of using a JPEG engine to assist in efficiently constructing MPEG I-frames.

In the claims:

Claim 6 has been rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the limitation of "the camera" had no antecedent basis in the claim. Claim 6 has been amended by replacing the word "camera" with the words digital imaging device. The preamble of the claim supplies the antecedent basis for this limitation.

Claims 1-3 and 8 have been rejected under 35 U.S.C. 103(a) as being unpatentable over de Queiroz et al (U.S. Pat. No. 6,058,210) in view of Ferguson (U.S. Pat. No. 6,052,555). The examiner cites column 7, lines 57-62 of de Queiroz, which indicates that its "proposed method may be used in combination with 'restart markers,' which are a utility available within the JPEG ... standard. A 'restart marker' is an optional resource defined by JPEG comprising a specific and unique byte-aligned sequence of bits that can be inserted in the compressed bit stream."

Claim 1 has been amended to include the limitation of producing JPEG data encoding discrete cosine transform coefficients in a byte-aligned manner. This change finds support in the specification at page 18, line 42, and more clearly distinguishes Applicant's byte-aligned encoding of discrete transform coefficients from the byte-aligned "restart markers" of de Queiroz. The restart markers are not data encoding discrete cosine transform coefficients, and de Queiroz does not teach or suggest encoding discrete cosine transform coefficients in a byte-aligned manner. Because the cited art does not teach or suggest all of the elements of Applicant's claim 1 as amended, claim 1 is believed allowable.

Claims 2 and 3 depend from allowable claim 1 and add further limitations, and are thus also believed allowable.

Similarly, Applicant's claim 8 has been amended to include the limitation that discrete cosine transform coefficients are encoded in a byte-aligned manner. This limitation is not taught or suggested by the cited art. Because the cited are does not teach or suggest all of the limitations of claim 8, claim 8 is believed allowable.

Claims 4 and 5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over de Queiroz in view of Ferguson and further in view of Mitchell et al. (U.S. Pat. No. 6,373,412). Claim 1 is believed allowable as is explained above. Claims 4 and 5 depend from claim 1 and add further limitations, and are thus also believed allowable. Claim 5 has been amended so that its language conforms more closely with claim 1 from which it depends.

Furthermore, in regard to claim 5, the examiner asserts based on column 5, lines 17-20 of Mitchell that Mitchell teaches providing conversion tables for converting byte-aligned JPEG data to MPEG data. The cited passage does not support the examiner's assertion. The cited passage mentions only "one or more Huffman coding tables which will be thereafter used to perform Huffman entropy coding or decoding." The tables of Mitchell are not conversion tables for converting byte-aligned JPEG data to MPEG data. In fact, Mitchell's only reference to MPEG (column 1, line 40) notes only that it possesses "temporal dependence" in contrast to JPEG, which doesn't. No mention is made of using tables for converting ... JPEG data to MPEG data.

Claims 6 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Liang (U.S. Pat. No. 6,445,823) in view of de Queiroz and Ferguson. Claim 6 as amended recites a logic unit adapted to configure the JPEG engine to produce a data stream in which discrete cosine transform coefficients are encoded in a byte-aligned manner. As is explained above, none of the cited art teaches or suggests a data stream in which discrete cosine transform coefficients are encoded in a byte-aligned manner. Because the cited art does not teach or suggest all of the elements of claim 6, claim 6 is believed allowable.

Claim 7 depends from claim 6 and adds a further limitation, and is thus also believed allowable.

Claims 9-14 have been rejected under 35 U.S.C. 102(e) as being anticipated by Mitchell et al. (U.S. Pat. No. 6,373,412). Applicant respectfully traverses the rejection because the examiner has not made out a *prima facie* case of anticipation. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California,* 2 USPQ2d 1051, 1053 (Fed Cir. 1987).

Claim 9 recites a table of byte-aligned codes for JPEG DC coefficients. In support of the rejection, the examiner cites column 7, lines 48-53 of Mitchell, which states

> A known method of recognizing a valid Huffman code and indexing into the Huffman tables would be to take sixteen (next) consecutive bits in the compressed data and look up (in a table having 2^{16} entries) the number of bits in the code and, in another table (of similar size), look up the R/S byte corresponding to the code.

The cited passage does not support the examiner's rejection. The cited passage merely recites reading 16 bits of information from a data stream and using a table-based method to determine which Huffman code is contained in the 16 bits. There is no suggestion that the codes themselves are byte-aligned. Because not each and every element of Applicant's claim 9 is found in Mitchell, Mitchell does not anticipate claim 9.

Claim 10 depends from claim 9 and adds further limitations, and is thus also not anticipated by Mitchell.

Claim 11 recites a table of byte-aligned codes for JPEG AC coefficients. As is explained above with regard to claim 9, Mitchell does not disclose byte-aligned codes, and thus does not anticipate claim 11.

Claim 12 depends from claim 11 and adds further limitations, and is this also not anticipated by Mitchell.

Claim 13 recites [a] lookup table that correlates byte-aligned JPEG DC coefficients and following bits with equivalent MPEG DC coefficients and following bits and claim 14 recites [a] lookup table that correlates byte-aligned JPEG AC coefficients and following bits with equivalent MPEG AC coefficients and following

certainly does not disclose tables for correlating JPEG data with equivalent MPEG
data. Thus, claims 13 and 14 are not anticipated by Mitchell.

The cited art does not anticipate Applicant's claims 9-14, nor does it teach or
suggest all of the elements these claims. Claims 9-14 are thus believed allowable.

Claims 15-24 have been newly added. These claims are amply supported in
pages 16-22 of the specification, and are believed allowable over the cited art.

The examiner has made of record but not relied upon Smith et al. (U.S. Pat.
No. 6,320,600), and technical articles by Zhong et al. and Ozer et al. These
references, taken singly or in combination, do not describe all of the elements of
Applicant's claims.

Applicant believes this application is in condition for allowance, and such
action is earnestly solicited.

Respectfully submitted,

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